

CLAIMS

1. A flow analysis system or flow injection analysis system, capable of quantitatively or semi-quantitatively determining elements to be detected, contained in a sample solution, to which a sealed vessel is connected in which a reagent solution is encapsulated, said reagent solution generating a detectable response according to the concentrations of the elements to be detected, contained in the sample solution, wherein the sealed vessel in which the reagent solution is encapsulated is composed of a material having an oxygen permeability of 10 fmol/m².s.Pa (2 cc/m².d.atm) or less.
- 10 2. The flow analysis system or flow injection analysis system according to Claim 1, to which further connected is a sealed vessel in which an auxiliary solution, other than the reagent solution, necessary for the response determination is encapsulated, wherein the sealed vessel in which the auxiliary solution is encapsulated is composed of a material having an oxygen permeability of 10 fmol/m².s.Pa (2 cc/m².d.atm) or less.
- 15 3. The flow analysis system or flow injection analysis system according to Claim 2, wherein the auxiliary solution is at least one selected from a carrier solution, a neutralizing solution, an oxidizer solution, a buffer solution, a standard solution of the element to be detected and a blank solution.
- 20 4. The flow analysis system or flow injection analysis system according to any one of Claims 1 to 3, wherein the oxygen content in the reagent solution or the auxiliary solution as encapsulated in the sealed vessel is 5 ppm or less.
- 25 5. A sealed vessel to be used in the flow analysis system or flow injection analysis system according to any one of Claims 1 to 4, which is composed of a material having an oxygen permeability of 10 fmol/m².s.Pa (2 cc/m².d.atm) or less, and in which a reagent solution or an auxiliary solution is encapsulated.
6. The sealed vessel according to Claim 5, wherein the oxygen content in

the reagent solution or the auxiliary solution as encapsulated in the sealed vessel is 5 ppm or less.

7. A flow analysis system or flow injection analysis system, capable of quantitatively or semi-quantitatively determining elements to be detected, contained in a sample solution, to which a sealed vessel is connected in which a reagent solution is encapsulated, said reagent solution generating a detectable response according to the concentrations of the elements to be detected, contained in the sample solution, wherein the oxygen content in the reagent solution as encapsulated in the sealed vessel is 5 ppm or less.

8. The flow analysis system or flow injection analysis system according to Claim 7, to which further connected is a sealed vessel in which an auxiliary solution, other than the reagent solution, necessary for the response determination is encapsulated, wherein the oxygen content in the reagent solution as encapsulated in the sealed vessel is 5 ppm or less.

9. The flow analysis system or flow injection analysis system according to Claim 8, wherein the auxiliary solution is at least one selected from a carrier solution, a neutralizing solution, an oxidizer solution, a buffer solution, a standard solution of the element to be detected and a blank solution.

10. The flow analysis system or flow injection analysis system according to any one of Claims 7 to 9, wherein the sealed vessel in which the reagent solution or the auxiliary solution is encapsulated is composed of a material having an oxygen permeability of $10 \text{ fmol/m}^2 \cdot \text{s.Pa}$ ($2 \text{ cc/m}^2 \cdot \text{d.atm}$) or less.

11. A sealed vessel to be used in the flow analysis system or flow injection analysis system according to any one of Claims 7 to 10, in which a reagent solution or an auxiliary solution having an oxygen content of 5 ppm or less is encapsulated.

12. The sealed vessel according to Claim 11, which is composed of a material having an oxygen permeability of $10 \text{ fmol/m}^2 \cdot \text{s.Pa}$ ($2 \text{ cc/m}^2 \cdot \text{d.atm}$) or less.

13. A flow analysis system or flow injection analysis system, capable of quantitatively or semi-quantitatively determining elements to be detected, contained in a sample solution, on the basis of the difference Δ between a first response with respect to a first solution flowing through a channel and a second response as a 5 baseline value with respect to a second solution flowing through the channel, wherein the second solution flowing through the channel contains a response-suppressing substance which acts to suppress the response by the reagent solution.
14. A method for flow analysis or flow injection analysis, comprising the steps of introducing a sample solution into a channel; introducing a reagent solution 10 into the channel from a sealed vessel in which the reagent solution is encapsulated, said reagent solution generating a detectable response according to the concentrations of elements to be detected, contained in the sample solution; and detecting a first response with respect to a first solution flowing through the channel and detecting or inputting a second response as a baseline value with respect to a 15 second solution flowing through the channel, said method capable of quantitatively or semi-quantitatively determining the elements to be detected, contained in the sample solution, on the basis of the difference Δ between the first response and the second response, wherein the sealed vessel in which the reagent solution is encapsulated is composed of a material having an oxygen permeability of 10 20 fmol/m².s.Pa (2 cc/m².d.atm) or less.

15. The method for flow analysis or flow injection analysis according to Claim 14, further comprising the step of introducing an auxiliary solution into the channel, to which a sealed vessel, in which the auxiliary solution, other than the reagent solution, necessary for the response determination is encapsulated, is 25 connected, wherein the sealed vessel in which the auxiliary solution is encapsulated is composed of a material having an oxygen permeability of 10 fmol/m².s.Pa (2 cc/m².d.atm) or less.

16. The method for flow analysis or flow injection analysis according to Claims 15, wherein the auxiliary solution is at least one selected from a carrier solution, a neutralizing solution, an oxidizer solution, a buffer solution, a standard solution of the element to be detected and a blank solution.

5 17. The method for flow analysis or flow injection analysis according to any one of Claims 14 to 16, wherein the oxygen content in the reagent solution or the auxiliary solution as encapsulated in the sealed vessel is 5 ppm or less.

10 18. A method for flow analysis or flow injection analysis, comprising the steps of introducing a sample solution into a channel; introducing a reagent solution into the channel from a sealed vessel in which the reagent solution is encapsulated, said reagent solution generating a detectable response according to the concentrations of elements to be detected, contained in the sample solution; and detecting a first response with respect to a first solution flowing through the channel and detecting or inputting a second response as a baseline value with respect to a 15 second solution flowing through the channel, said method capable of quantitatively or semi-quantitatively determining the elements to be detected, contained in the sample solution, on the basis of the difference Δ between the first response and the second response, wherein the oxygen content in the reagent solution as encapsulated in the sealed vessel is 5 ppm or less.

20 19. The method for flow analysis or flow injection analysis according to Claim 18, further comprising the step of introducing an auxiliary solution into the channel from a sealed vessel in which the auxiliary solution, other than the reagent solution, necessary for the response determination is encapsulated, wherein the oxygen content in the reagent solution as encapsulated in the sealed vessel is 5 ppm 25 or less.

20. The method for flow analysis or flow injection analysis according to Claim 19, wherein the auxiliary solution is at least one selected from a carrier

solution, a neutralizing solution, an oxidizer solution, a buffer solution, a standard solution of the element to be detected and a blank solution.

21. The method for flow analysis or flow injection analysis according to any one of Claims 18 to 20, wherein the sealed vessel in which the reagent solution or the auxiliary solution is encapsulated is composed of a material having an oxygen permeability of $10 \text{ fmol/m}^2 \cdot \text{s.Pa}$ ($2 \text{ cc/m}^2 \cdot \text{d.atm}$) or less.
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22. A method for flow analysis or flow injection analysis, comprising the steps of introducing a sample solution into a channel; introducing a reagent solution into the channel from a sealed vessel in which the reagent solution is encapsulated,
10 said reagent solution generating a detectable response according to the concentrations of elements to be detected, contained in the sample solution; and detecting a first response with respect to a first solution flowing through the channel and detecting or inputting a second response as a baseline value with respect to a second solution flowing through the channel, said method capable of quantitatively
15 or semi-quantitatively determining the elements to be detected, contained in the sample solution, on the basis of the difference Δ between the first response and the second response, wherein the second solution flowing through the channel contains a response suppressing substance which acts to suppress the response by the reagent solution.